

CLAIMS

1. A fiber optic polarizer comprising:

a chuck defining a groove in a face along a lengthwise direction thereof;

a single mode fiber installed on the face around one end of said groove;

a polarization-maintaining fiber installed on the face around the other end of said groove; and

a polarization beamsplitter disposed between said single mode fiber and said polarization-maintaining fiber; wherein

the polarization beamsplitter is positioned to respectively align with the single mode fiber and the polarization-maintaining fiber at two opposite ends thereof to allow unpolarized light from the single mode fiber to enter the polarization beamsplitter at one end thereof and an o-ray of a polarized light to leave the polarization beamsplitter toward the polarization-maintaining fiber.

2. The polarizer as defined in claim 1, wherein the said polarization beamsplitter is fixed to a wafer above the chuck.

3. The polarizer as defined in claim 1, wherein a box hermetically encloses the check and the polarization beamsplitter with portions of the single mode fiber and polarization-maintaining fiber exposed to an exterior.

4. The polarization as defined in claim 1, wherein said groove is V-shaped, and both the single mode fiber and the polarization-maintaining fiber are fixed thereto.

5. A method of polarizing an unpolarized light, comprising the steps of:

providing a box enclosing a chuck with a through V-groove along a lengthwise direction thereof, and a wafer above said check;

installing a single mode fiber in said V-groove around one end thereof;

installing a polarization-maintaining fiber in said V-groove around the other end thereof;

